

**REMARKS**

Amendments to claims 1, 10, 15, 24, 34, and 40 are for the purpose of clarifying what Applicant regards as the claimed invention. Amendments to claims 49, 55, and 58 are to incorporate limitations from canceled claims 52, 56, and 61, respectively. Amendments to claims 31, 37, and 46 are to bring these claims into conformity with the language of their respective base claims. No new matter has been added.

I. Claim Rejections under 35 U.S.C. § 112

Claims 1-29 and 31-66 stand rejected under 35 U.S.C. § 112, first paragraph, as allegedly failing to comply with the written description requirement. Without acquiescence to the basis of the rejections stated in the Office Action, the claims have been amended to remove the alleged deficiency, thereby rendering the § 112 rejections moot.

II. Claim Rejections under 35 U.S.C. § 101

Claims 1-9, 15-23, 24-29, 31-33, 40-48, 49-54, 58-64, and 66 stand rejected under 35 U.S.C. § 101. Claims 1, 15, 24, 40, 49, and 58 have been amended to clarify that the “processor” is used to perform at least part of the claimed process/method, thereby tying the claimed subject matter to a statutory class. Furthermore, Applicant submits that “performing a medical procedure” as described in claims 24 and 40, and “gating a medical procedure” as described in claims 1, 15, 49, and 58, result in physical transformations in the real world. Thus Applicant respectfully requests that the § 101 rejection be withdrawn with respect to these claims and their respective dependent claims.

III. Double Patenting Rejections

Claims 1-29 and 31-63 stand provisionally rejected on the ground of nonstatutory obviousness-type double patenting as allegedly being unpatentable over claims 1-4 and 7-63 of copending U.S. Patent Application No. 10/656,478.

Claims 1-29 and 31-63 stand provisionally rejected on the ground of nonstatutory obviousness-type double patenting as allegedly being unpatentable over claims 33-43 and 44-49 of copending U.S. Patent Application No. 10/678,741.

Claims 1-29 and 31-63 stand rejected on the ground of nonstatutory obviousness-type double patenting as allegedly being unpatentable over claims 1-27 of U.S. Patent No. 6,959,266.

Claims 1-29 and 31-63 stand rejected on the ground of nonstatutory obviousness-type double patenting as allegedly being unpatentable over claims 1-48 of U.S. Patent No. 6,937,696.

Claims 1-29 and 31-63 stand rejected on the ground of nonstatutory obviousness-type double patenting as allegedly being unpatentable over claims 1-28 of U.S. Patent No. 6,621,889.

Applicant herein submits terminal disclaimers to overcome any actual and/or provisional rejections based on the above cited references. Thus, Applicant respectfully requests that the double patenting rejections be withdrawn.

IV. Claim Rejections under 35 U.S.C. § 103 based on Kaufman and Takeo

Claims 1-23 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over U.S. Patent No. 7,006,862 (Kaufman) in view of U.S. Patent No. 6,125,166 (Takeo).

A. Claims 1, 10, and 15

Claim 1 has been amended to recite gating a medical procedure *based at least in part on the first composite image*, wherein the act of gating the medical procedure is performed in *real time* (Emphasis Added). Claims 10 and 15 have been amended to recite similar limitations.

Kaufman does not disclose or suggest the above limitations. Rather, Kaufman discloses determining a composite image, which is used to determine calcium detection or 3-D rendering (see abstract and c8:15-16). Notably, the calcium detection and the 3-D rendering do not involve any *gating*. Also, the calcium detection and 3-D rendering described in Kaufman are actually performed retrospectively - i.e., long after the projection images are obtained (see also, title, c4:46-48, and c14:65). Thus, Kaufman clearly does not disclose or suggest gating a medical procedure in real time, nor does it disclose or suggest gating a medical procedure in real time based at least in part on a composite image.

Takeo also does not disclose or suggest the above limitations, and therefore fails to make up the deficiencies present in Kaufman. In particular, Takeo discloses a method of forming an energy subtraction image, which is used for diagnosis of an illness (c3:47-54), and not for gating a medical procedure. In Takeo, the procedure for diagnosis of the illness is performed long after the image is obtained. Thus, Takeo also clearly does not disclose or suggest gating a medical procedure in real time based at least in part on a composite image. Since Kaufman and Takeo both fail to disclose or suggest the above limitations, any alleged combination of these references cannot result in the subject matter of claims 1, 10, and 15. For at least the foregoing reasons, claims 1, 10, and 15, and their respective dependent claims, are believed allowable over Kaufman, Takeo, and their combination.

B. No prima facie case of § 103 rejection for dependent claims 2-9, 11-14, 16-23, and 64-66

Applicant notes that the Office Action did not specifically identify where the elements of the dependent claims 2-9, 11-14, 16-23, and 64-66 are found, and did not provide a motivation to combine Takeo with Kaufman with respect to these elements. Under the ruling of the Supreme Court in *KSR Int'l v. Teleflex, Inc.*, 127 S. Ct. 1727 (2007), the element being combined must be known, and that there must be a motivation to combine such element.

Further, Applicant has requested in the last response that the Examiner identify where the elements of the dependent claims are found, and provide any basis for the alleged motivation for the purported combination of references. However, Applicant respectfully notes that these requested information for establishing the prima facie case of the § 103 rejection have not yet been provided in the Office Action.

Thus, Applicant respectfully submits that a prima facie case of the § 103 rejection has not been established for each of the above dependent claims, and requests that the § 103 rejection for these claims be withdrawn.

V. Claim Rejections under 35 U.S.C. § 103 based on Kaufman, Takeo, and Fitzgerald

Claims 24-29, 32, 33, 34-39, 40-48, and 49-66 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Kaufman in view of Takeo, and further in view of U.S. Patent Application Publication 2005/0027196 (Fitzgerald).

A. Claims 24, 34, and 40

Claim 24 has been amended to recite a plurality of templates, each of the templates having an image and treatment data, wherein the treatment data comprises *one or more*

*parameters for controlling an operation of a radiation machine*, and wherein each of the plurality of templates corresponds to a phase of a physiological cycle (Emphasis Added). Claims 34 and 40 have been amended to recite similar limitations. Applicant agrees with the Examiner that Kaufman and Takeo do not disclose or suggest a plurality of templates, each of which having an image and treatment data.

According to the Office Action, paragraphs 12 and 23 of Fitzgerald allegedly disclose “treatment planning records,” which the Examiner considers to be the claimed “templates.” However, Applicant notes that the information in the “treatment planning record” are in fact for documenting “the radiation a patient received from implant radiation” (see paragraph 23, especially last sentence). Thus, the so-called “treatment planning record” of Fitzgerald clearly does not include treatment data that include one or more parameters for controlling an operation of a radiation machine, as described in claims 24, 34, and 40.

Since none of the cited references discloses or suggests the above limitations, any purported combination of the cited references cannot result in the subject matter of claims 24, 34, and 40. For at least the foregoing reasons, claims 24, 34, and 40, and their respective dependent claims, are believed allowable over Kaufman, Takeo, Fitzgerald, and their combination.

B. Claims 49, 55, and 58

Claim 49 has been amended to recite registering the input image with the template, wherein the registering comprises selecting the template *from a plurality of templates that best matches an image in the input image* (Emphasis Added). Claims 55 and 58 have been amended to recite similar limitations. None of the cited references discloses or suggests such limitations.

Thus, any purported combination of the cited references cannot result in the subject matter of claims 49, 55, and 58. For at least the foregoing reasons, claims 49, 55, and 48, and their respective dependent claims, are believed allowable over Kaufman, Takeo, Fitzgerald, and their combination.

C. No prima facie case of § 103 rejection for dependent claims 25-29, 31-33, 35-39, 41-48, 50-51, 53-54, 57, 59-60, and 62-66

Applicant notes that the Office Action did not specifically identify where the elements of the dependent claims 25-29, 31-33, 35-39, 41-48, 50-51, 53-54, 57, 59-60, and 62-66 are purportedly found, and did not provide a motivation to combine Takeo and Fitzgerald with Kaufman with respect to these elements. Under the ruling of the Supreme Court in *KSR Int'l v. Teleflex, Inc.*, 127 S. Ct. 1727 (2007), the element being combined must be known, and that there must be a motivation to combine such element.

Further, Applicant has requested in the last response that the Examiner identify where the elements of the dependent claims are found, and provide any basis for the alleged motivation for the purported combination of references. However, Applicant respectfully notes that these requested information for establishing the prima facie case of the § 103 rejection have not yet been provided in the Office Action.

Thus, Applicant respectfully submits that a prima facie case of the § 103 rejection has not been established for each of the above dependent claims, and requests that the § 103 rejection for these claims be withdrawn.

VI. Claim Rejections under 35 U.S.C. § 103 based on Kaufman, Takeo, and Verard

Claims 49-66 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Kaufman in view of Takeo, and further in view of U.S. Patent Application Publication 2004/0097805 (Verard).

A. Claims 49, 55, and 58

Claim 49 has been amended to recite registering the input image with the template, wherein the registering comprises selecting the template *from a plurality of templates that best matches an image in the input image* (Emphasis Added). Claims 55 and 58 have been amended to recite similar limitations. None of the cited references discloses or suggests such limitations. Thus, any purported combination of the cited references cannot result in the subject matter of claims 49, 55, and 58. For at least the foregoing reasons, claims 49, 55, and 48, and their respective dependent claims, are believed allowable over Kaufman, Takeo, Verard, and their combination.

B. No prima facie case of § 103 rejection for dependent claims 50-51, 53-54, 57, 59-60, and 62-66

Applicant notes that the Office Action did not specifically identify where the elements of the dependent claims 50-51, 53-54, 57, 59-60, and 62-66 are found, and did not provide a motivation to combine Takeo and Verard with Kaufman with respect to these elements. Under the ruling of the Supreme Court in *KSR Int'l v. Teleflex, Inc.*, 127 S. Ct. 1727 (2007), the element being combined must be known, and that there must be a motivation to combine such element.

Further, Applicant has requested in the last response that the Examiner identify where the elements of the dependent claims are found, and provide any basis for the alleged motivation for the purported combination of references. However, Applicant respectfully notes that these requested information for establishing the prima facie case of the § 103 rejection have not yet been provided in the Office Action.

Thus, Applicant respectfully submits that a prima facie case of the § 103 rejection has not been established for each of the above dependent claims, and requests that the § 103 rejection for these claims be withdrawn.



**CONCLUSION**

Based on the foregoing remarks, all claims are believed allowable. If the Examiner has any questions or comments regarding this response, the Examiner is respectfully requested to contact the undersigned at the number listed below.

To the extent that any arguments and disclaimers were presented to distinguish prior art, or for other reasons substantially related to patentability, during the prosecution of any and all parent and related application(s)/patent(s), Applicant(s) hereby explicitly retracts and rescinds any and all such arguments and disclaimers, and respectfully requests that the Examiner re-visit the prior art that such arguments and disclaimers were made to avoid.

The Commissioner is authorized to charge any fees due in connection with the filing of this document to Vista IP Law Group's Deposit Account No. **50-1105**, referencing billing number **VM 03-006**. The Commissioner is authorized to credit any overpayment or to charge any underpayment to Vista IP Law Group's Deposit Account No. **50-1105**, referencing billing number **VM 03-006**.

Respectfully submitted,

DATE: July 8, 2009

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